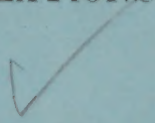


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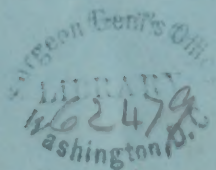
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BY



ALFRED UNDERHILL, M.D.,
OF NEW YORK.

READ BEFORE THE NEW YORK ACADEMY OF MEDICINE, NOV., 25, 1869.



NEW YORK:
WILLIAM WOOD & CO., 61 WALKER STREET.
1870.

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THE SIGNS OF PREGNANCY.

The present paper, on the "Symptoms and signs of pregnancy in their diagnostic relations," was written for the purpose of introducing the subject for discussion upon a recent occasion, before the obstetrical section;—this explanation seems necessary, as the paper is not of that elaborate and exhaustive character that might be deemed proper in one prepared expressly to be read before the Academy.

The physician occupied in the general practice of his profession, or he who practises midwifery only, or he who makes a specialty of the diseases of women, meets constantly in his daily rounds of duty with cases obscure, difficult, and delicate, which he must be always prepared to promptly investigate; and in giving his opinion on any doubtful case of pregnancy, can seldom do so without incurring a very great responsibility—for disastrous results, both to the patient and himself, may follow from an erroneous diagnosis. The cases are not unfrequent where, on the correctness of his opinion, may depend the reputation for virtue and honor of an innocent woman laboring under disease. In ordinary cases, he will not often meet with efforts on the part of the patient to conceal the pregnant condition, and his inquiries are met with all possible frankness, rendering his investigations comparatively easy; but he may not always be so fortunate as to receive her aid and assist-

ance, and his acumen will be frequently taxed by women who feign gestation when it does not exist, or deny its possibility when it has actually occurred. He must be prepared for every kind of untruthfulness and misrepresentation. In some instances the question will become one of judicial investigation. It may be respecting the legitimacy of a child, and of consequence its legal rights, or the seeking a divorce on the part of the husband. Perhaps the cases most commonly met with are those where efforts are made for the concealment of pregnancy, both by the married and unmarried, in order to avoid disgrace, or, what is far worse, to effect the destruction of her unborn child with impunity—a crime now so notoriously prevalent, that our public prints are almost constantly full of the ignominious revelations, and the virtuous blush with shame and mortification upon its bare mention. It is the opprobrium of the present time. Yet, it is but right to state, the female, in a large majority of instances, is the less guilty party; she is but the victim and dupe of the unprincipled seducer, or the so-called physician, male or female—the modern Thug, who stabs in the dark, destroying both child and mother for the gain of a little dirty pelf. To abate this nuisance, we call upon our magistrates to fearlessly do their duty in the premises, and our own profession should consider it theirs, on all proper occasions, and in the strongest language, to condemn this fearful crime.

There are two varieties of pregnancy, *uterine* and *extra uterine*. In other words, the ovum may be developed within the uterine cavity, or outside of the womb. It is the first division, or uterine pregnancy, that we shall consider in this paper; aiming to give a concise view of the subject, avoiding all classification of symptoms, and to treat them as nearly as possible in the order of nature, as they succeed each other in the pregnant female.

GENERAL EFFECTS OF THE PREGNANT STATE.

Almost immediately after the woman has conceived, a very remarkable and progressive increase of the generative system is manifested, and this is shown chiefly in the uterus. The uterus not only acquires a principle of growth, but its walls are rendered very vascular; the tissue of this organ gets infiltrated with serum, while the mucous membrane becomes greatly thickened, and the cervix and labia consequently present a peculiar velvety feel, not unlike that presented by an abraded os. In time, as the womb gradually expands, and slowly rises out of the pelvic cavity, it disturbs the relations of the abdominal viscera. The bladder, being supplied, like the uterus, with nerves from the hypogastric and sacral plexuses, first suffers. This organ becomes irritable, so that a frequent troublesome desire to micturate is manifested; while in the latter stages of gestation, when the pressure and weight of the womb is considerable, great inconvenience is ordi-

narily experienced from an inability to retain the urine, which comes away involuntarily on coughing, laughing, or even walking. As soon as the uterus has acquired considerable size, it necessarily begins to interfere with the circulation, and particularly that through the veins; producing more or less anasarca of the feet and legs, by its pressure on those venous trunks which return the blood from the lower extremities. In the same way the foundation is laid for intractable varicose veins and troublesome piles; the latter difficulty may also arise from congestion of the hemorrhoidal veins, the result of constipation. So also, from the pressure of the pelvic nerves, numbness and cramps are experienced in the thighs and legs; and occasionally even a temporary form of paralysis results from this cause. When the uterus has acquired its full growth, by pressing the liver and stomach against the diaphragm it diminishes the capacity of the chest, impedes the action of the lungs and heart, and occasionally produces a considerable amount of dyspnoea.*

The countenance of the pregnant woman soon alters in its expression, the features become sharpened in their outline, and the neck fuller and larger; the complexion changes, and discoloration of skin in patches is often seen; the eyes become sunken and languishing, and a dark circle round the orbits. The pulse is fuller, increased in frequency and force; and the blood, augmented in quantity, more plastic in its character from an increase of fibrin, as proved by the buffy coat when drawn, than under ordinary circumstances. The respiration is more rapid, and usually accompanied by an increase in the temperature of the body. The activity of the digestive organs, and also of the secretions generally, is greater, though derangements often supervene. The kidneys not unfrequently secrete albuminous urine, a symptom of vast importance in regard to her eventual recovery. The nervous system undergoes probably as great a change as any other portion of the animal economy; variations in temper and disposition are common, as also caprice of taste. The moral condition is changed; she becomes more courageous, more self-dependent, more enterprising and self-willed than before; those previously cheerful become peevish, morose, melancholy, and sometimes even pass into insanity. At the commencement of pregnancy the female is more liable to disease, constituting the puerperal condition, which, originating in conception, is developed during pregnancy, and increases at parturition, only ceasing when she has recovered from the exhaustion consequent upon delivery. Not unfrequently, however, she becomes more fleshy and buoyant, and enjoys far better health on the supervention of pregnancy than at any other period of her life.

These general effects, though significant of her condition, are

* Tanner, Signs and Diseases of Pregnancies, p. 72.

not of themselves of any positive diagnostic value ; yet, when combined with other more special signs, serve to strengthen the diagnosis, which is always difficult in the early months of gestation, though becoming more easily determined as pregnancy advances.

SUPPRESSION OF THE MENSES.

Cessation of the catamenia has always been considered one of the most important as one of the earliest signs of pregnancy ; this sign first leads the female to suspect that she is pregnant, and if it is absent for two successive periods, she deems it almost conclusive as to her condition. If the woman is healthy, and has always been regular, much reliance may be accorded to this popular belief. The occurrence of this circumstance must not, however, be regarded as an unerring sign of pregnancy, since it may often be due to functional or organic disease of the uterine system ; or pregnancy may take place previous to menstruation having appeared at all ; or immediately after ceasing to give suck, and before it has had time to recur. And even the presence of the catamenial discharge will not indicate certainly its non-existence, since it is clearly proved that some females regularly menstruate during the early months, and some cases are recorded where it has appeared throughout the whole period of utero-gestation, while others are found to menstruate only during pregnancy. A case, not long since, came under my own observation, where the lady had the discharge monthly up to the beginning of the ninth month of her pregnancy, and went to her full time favorably. We may conclude where the menses have suddenly disappeared, and their cessation is not attributable to shocks of the nervous system, to exposure, to cold and moisture, or disease, pregnancy may be suspected, particularly if the female has had intercourse with the opposite sex. When the female is married, the difficulty in diagnosis is somewhat lessened ; but if she be unmarried, the case is rendered exceedingly uncertain by the denial of improper exposure. The physician should be cautious in crediting the assertion of the patient on this point ; at the same time, he should avoid pronouncing her to be pregnant, unless conclusive testimony justify him in so doing. The proper course is to avoid giving a decided opinion until, in the progress of pregnancy, other signs render the diagnosis undoubted.

MORNING SICKNESS, VOMITING, &C.

The exquisite sympathy existing between the uterus and stomach is manifested in the great irritability of the latter, as in *morning sickness* ; this most usually, though not always, takes place before rising from bed in the morning, from which circumstance it gets its name, is entirely independent of anything taken

into the stomach. It may commence immediately after conception—more generally it begins about the fourth week. Its existence, however, not being confined to pregnancy, is not a sign of positive importance, unless combined with other symptoms.

Vomiting often, though not invariably, accompanies pregnancy; but, like nausea, may occur in other affections, and therefore is not reliable as a sign of pregnancy.

Anorexia is sometimes present, and may be accompanied by perversion of appetite, as is shown in the longing after articles of food which are positively injurious, or for such as are not usually taken as food. It is not a sign of importance.

Ptyalism has been enumerated, as far back as Hippocrates, as one of the symptoms of pregnancy; it is not of very frequent occurrence, nor is it of much value as a diagnostic sign, though many cases are mentioned by modern authors. It is easily distinguished from ptyalism induced by mercury by the absence of the sponginess of the gums, and of the peculiar fetor of the breath.

Nausea, vomiting, anorexia, and ptyalism may continue during the whole progress of pregnancy, but most usually they disappear after a few months. Mainly, this is true in regard to the nausea and anorexia, which are frequently succeeded by good appetite and good digestion.

THE BREASTS, NIPPLES, &C.

Enlargement of the mammæ is almost a constant attendant upon pregnancy. They become swollen, firmer than usual, having a knotty, glandular feel, and tender, with throbbing pains, evidently from vascular excitement, manifested by their increased heat and sensibility, and rapid development of the superficial veins. These symptoms show themselves about the second month after conception, in some cases sooner, and often continue throughout the whole period of utero-gestation. In others the excitement and tumefaction subside about the fourth or fifth month, and is not reproduced until the end of pregnancy, or perhaps until after parturition. The glands of the axillæ sometimes become enlarged, but this is not constant.

In conjunction with enlargement of the breasts, the *nipples* undergo an increase of size and become erectile; a fluid substance may be made to flow by pressure from the terminal ducts. The color of the nipples changes from the delicate pinkish hue of the virgin to a deeper red. At the same time the surrounding tissues assume an emphysematous character, due to an increased afflux of fluids to the part, and even a degree of moisture is often apparent.

As signs of pregnancy, enlargement of the breasts and increased prominence of the nipples are very uncertain. The same changes may be produced at each menstrual period when there is suppression of the catamenia, caused by disease of the uterus

or its appendages. On the other hand, pregnancy may exist without the occurrence of these changes.

The change in the color of the areola has been considered by some writers as pathognomonic of pregnancy. Hunter and Smellie considered it a certain sign, so much so, that the former diagnosed pregnancy in a female brought dead into the hospital whose hymen was perfect, simply upon the ground that the areolæ were changed in color. A subsequent post-mortem examination verified the diagnosis. If the areola be examined eight or ten weeks after impregnation, the color will be changed from its natural pinkish virgin hue to a deep brown, and becomes soft and puffy. This change is more apparent in first than second pregnancies, and in brunettes than in persons of light complexion.

As this sign may occur from ordinary uterine irritation, and in some cases it is altogether absent, its value has undoubtedly been overrated. In first pregnancies it is a sign of considerable importance; but when the female has had more than one child it is difficult to determine whether the change in the color of the areola is due to a previous pregnancy, or the one the diagnosis of which is under discussion.

At the same time that the discoloration of the areola occurs, the *sebaceous glands or follicles* seated under the skin of the areola, fifteen or twenty in number, become enlarged, giving to the part a rough, uneven, and often a scaly appearance, which is produced by the drying up of the fluid which has exuded from the follicles. This last is a very valuable sign of pregnancy, much more so than the discoloration of the areola. When the two co-exist, they are exceedingly important diagnostic signs. A few months since a delicate woman, 18 years of age, called upon me to know if she was in a pregnant condition. She stated that she had been married three months, and ceased to menstruate since that period, previous to which she had always been regular. She had no nausea or unpleasant sensations; the breasts were firm and somewhat enlarged; nipples swollen, though giving no fluid on pressure; areola dark, and sebaceous follicles prominent; abdomen somewhat full; made no vaginal examination. From these symptoms I informed her that she was probably pregnant, at the same time there was a bare possibility of her not being in that condition. She manifested considerable emotion, and shed tears, and expressed a hope that it was not the case as her husband had abandoned her. Having some suspicion, I then said to her, if she was really pregnant, she was honestly so, and by all means to let nature take its course; for if she attempted to get rid of the fœtus she was quite as likely to lose her own life as to succeed. She thanked me for the advice and left. About six months after she was safely delivered of a full-grown child.

Secretion of milk is a sign of considerable importance; but here likewise we have anomalous cases which tend to greatly weaken

its value. Thus Baudelocque asserts having met with it in a child eight years old; and it is known that this secretion occurs in females not pregnant, but simply affected with suppression of the catamenia, and it is occasionally secreted at each return of the menses. Numerous cases have been reported where girls of 11 and 12 years of age, and women too old for child-bearing, have been successful in suckling children by perseverance in applying them to the breasts; and we have even instances where men have also succeeded by using similar measures. For these reasons the secretion of milk cannot be relied upon as an evidence of pregnancy.

ENLARGEMENT OF THE ABDOMEN.

The enlargement of the abdomen is necessarily governed by the development of the uterus and its contents. During the first and second months after conception there is no apparent enlargement, although there is a decided augmentation of the uterus itself; as the uterus settles rather low down in the pelvis the abdomen is even flatter above the pubis than it was prior to this event. At the end of the third month the womb ascends just above the level of the symphysis pubis, and the flattening gives place to increased fulness; the enlargement increases progressively as the uterine tumor becomes more and more developed, and from this time can usually be detected. About the sixth month the depression of the umbilicus has disappeared, and at the seventh the navel becomes prominent, forming a considerable protuberance. At the end of the eighth month the fundus has reached the epigastric region. After the middle of the ninth month the uterus ceases to rise in the abdomen, and about this period, or two weeks prior to the commencement of labor, the uterus sinks perceptibly lower in the pelvis, often giving marked relief to the woman's respiration.

As a sign of the pregnant state this symptom is extremely fallacious, as it may be produced by so many different causes. Ascites, tumors of the uterus or ovaria, hydatids in the womb or liver, retention of the catamenia, and even distention by gas or feculent matter in the bowels, may be mistaken for enlargement from pregnancy; and unless some more certain signs are present, we are not justified in drawing a conclusion from this symptom alone. Enlargement of the abdomen from pregnancy is always greater anteriorly than laterally, especially in multiparæ. In examination of the abdomen, *palpation* is a most efficient mode, and will add greatly to our knowledge of its contents. It is not very unusual for the female to deceive herself with this symptom. A case in illustration is as follows:—A woman thirty years of age, eight years married without children, engaged me to attend upon her in her coming confinement, she considering herself seven

months pregnant. Some two months elapsed when I was sent for in great haste, as she was taken in labor. On entering the room I found her in bed, the nurse present, and everything in readiness for the coming event. The lady had been vomiting, and complained of considerable pain at short intervals, but to me, after a brief observation, they were not apparently those of labor. I placed my hand upon the abdomen and found general tumefaction, but no uterine tumor. I examined the breasts, which were full and soft; no prominence of the nipples, no discoloration of the areola, no enlarged follicles. My suspicions were aroused. Upon vaginal examination, the cervix was found as in the unimpregnated condition, the os small, the uterus movable, and of natural size. The case was clear—the woman was not pregnant. After further inquiry, I found that she had been exceedingly troubled with constipation, often passing several days without an evacuation from the bowels. Some active cathartic medicine dispelled all her difficulties, and with them the strong hopes she had nourished of becoming a mother.

CHANGE IN THE COLOR OF THE VAGINA, &C.

The change from the natural pinkish hue of the vulva and vagina to a bluish or dark violet color, appearing about the fourth or fifth week, has been considered as a strong evidence of pregnancy.

As this change, though very common, especially in the vulva, does not always exist, and as it is sometimes present at the menstrual period, caused by a general congestion of the capillaries, from the presence of fibroid tumors, and also from diseases of other organs, as of the liver, its value as a sign of pregnancy is much impaired. Still, if this discoloration be present in a healthy female, and the menses have been absent three or four months, it may be taken as almost decisive of the existence of pregnancy.

CHANGES IN THE OS UTERI.

Examination per vaginam soon after the commencement of pregnancy shows that the cervix has become changed; in the unimpregnated condition it resembles fibrous tissue; but soon after conception the part is congested and softer than usual. This ramollissement gradually extends, and at the sixth month one-half of the neck has undergone this change. During the last three months the whole cervix is apparently shortened from the congestion. This is one of the earliest signs of pregnancy, and when the *touch* has been well exercised, it affords an indication of the greatest importance. The progress of ramollissement is always from below upwards, and is less rapid in primiparæ than in those who have borne children.

In the opinion of most writers, the cervix is said to shorten and gradually disappears during the last month of utero-gestation, being absorbed in the body of the uterus. This opinion, however, is controverted by others, and, prominent among them, Dr. I. E. Taylor, of this city, who maintains that its obliteration in the body of the uterus is only apparent; that the cervix uteri does not undergo any shortening or effacement of the supra and vaginal portions, but retains its whole length throughout pregnancy. The dilatation of the cavity of the neck advances simultaneously with the softening of its walls and the advancement of pregnancy; near the termination of gestation the finger can easily touch the membranes. The signs manifested by the os and cervix uteri are exceedingly important as evidence of pregnancy.

BALLOTTEMENT.

During the latter part of the third, or at the beginning of the fourth month of uterine gestation, often before the patient is conscious of any change in her condition, the accoucheur can recognize the enlarged uterus, and also a body floating in its cavity, by *ballottement*. This passive movement of the fœtus is obtained by placing one hand over the hypogastrium, with one or two fingers of the other introduced within the vagina, toward the lower and anterior part of the uterus immediately above the cervix, the patient usually being in the upright or standing position, and suddenly forcing it upwards. When this impulse is quickly made, it is felt by the hand placed upon the abdomen; the fœtus, floating in the amniotic fluid, ascends, and will by its own weight fall back upon the finger which gave it the impulse. This examination can be made also in a reclining and other positions, and in making it the bladder and rectum should both be empty.

This is a valuable sign of gestation. It is claimed that, when distinctly felt, it is proof positive of a fœtus in utero, there being no other condition or disease in which a solid body can be recognized in this way. Others consider this opinion too absolute, as stone in the bladder, an indurated ovary, or an anteverted uterus, may render the diagnosis difficult.

MOVEMENTS OF THE FŒTUS.

The active fetal movements are generally perceived by the woman at the middle of the fourth or the commencement of the fifth month, and continue throughout pregnancy. The force and frequency of these motions will depend on the state of the fœtus. The first movements are felt above the pubis, most usually after going to bed, or immediately before rising in the morning. The first faint movements are called *quickening*. Some authori-

ties, however, deny that the first sensations are fetal movements, and ascribe the sensation to a sudden rising of the uterus out of the true into the false pelvis. Women are often deceived in the perception of the fetal movements by the passage of flatus through the intestines, even though they may have borne many children. They are modified or retarded by the strength of the fetus, by the quantity of the liquor amnii, and by the sensibility of the uterus. Some sensitive females assert that they have felt the fetal motions as early as the third month, or twelfth week after conception, which is very rare; while others are not cognizant of them until the fifth, sixth, or even seventh month.

The motion of the fetus in utero is a positive sign of pregnancy; but its absence does not prove the non-existence of this condition, since no movement would be perceived if the fetus was dead, and its detection difficult where it is feeble in strength. Instances occur where the woman feels no movement, and yet the physician can perceive it distinctly. Cases are mentioned where women have the power of stimulating them by the action of the abdominal muscles. By applying the hand, after dipping it in cold water, suddenly upon the abdomen, the physician may determine the existence of these movements. They may also be detected by palpation upon the walls of the uterus and abdomen, and also by pressing the points of the fingers firmly against the opposite sides of the uterus, and by the vaginal touch in certain positions of the child.

SIGNS DERIVED FROM AUSCULTATION.

The auscultatory signs of pregnancy are of exceeding importance, and when fully made out are certain evidence of the pregnant condition. Considerable knowledge and tact are necessary to detect the maternal and fetal sounds, and to appreciate them at their true value.

Passing over the *friction sounds* produced by the fetus in utero, heard a few weeks previous to the fetal movements, according to Naegele, and which are perceptible as gentle taps, and also the *funic pulsations*, which are heard by the stethoscope in certain positions of the umbilical cord, as not possessing much practical diagnostic value, we will proceed to consider the *uterine souffle*, or *utero-placental murmur*.

This sound is first heard about the end of the twelfth or fourteenth week, or a few weeks earlier than that of the fetal heart. It consists of an intermittent blowing sound, synchronous with the pulse of the woman, consequently connected with the maternal vascular system, and is usually heard low down upon the sides of the abdomen, or immediately over the uterine tumor. There are various opinions in regard to its origin. It probably originates in the arterial vessels ramifying through the uterine tissues, and is

more distinctly heard over that portion of the uterus where the placenta is attached, though its situation frequently changes. It may be easily heard by the metroscope and uterine stethoscope, but their introduction into the vagina makes their use objectionable.

Its value as a sign of pregnancy is limited to rendering that state probable, for its presence is not constant; and when it exists it may be due to other causes, such as tumors in the abdomen, or aneurism, pressing upon the uterine or other large vessels.

The pulsations of the fetal heart resemble the muffled ticking of a watch, giving beats as rapidly as 120 to 150 in a minute. Each beat is accompanied with two sounds, but from their great frequency only one can usually be counted; the beats bear no relation to the pulse of the mother. Between the fourth and fifth months it is generally first observable, and continues until delivery. It varies in strength and rhythm, caused undoubtedly by changes in the fœtus itself, and likewise by sympathetic impressions received from the mother. It is usually most distinctly heard about the middle or inferior portion of the abdominal region, most frequently on the left side of the mother; its presence varies, however, in accordance with the position of the fœtus. It is detected over a considerable extent of surface, and when the ear of the auscultator is very acute, it may be heard in almost every case if the child be living, and is valuable in determining the life or death of the child in the progress of labor.

The presence of fetal pulsations is a positive sign of the existence of pregnancy which cannot be imitated or evaded in any manner. There will always be a marked distinction between the fetal and maternal pulse, both in quickness and locality, that will prevent error or confounding one with the other. Its absence does not prove that the female is not pregnant, for the child may be dead, or feeble, or a large amount of liquor amnii may exist, or its position may be unfavorable to transmit the sound for a time. The presence of twins may often be diagnosed with certainty by the detection of the pulsations of two fetal hearts at some distance from each other, and it is the only sign on which reliance can be placed in these cases. When in tedious labors we find the fetal pulse becoming slower and slower, or, on the contrary, where it increases in rapidity, especially if irregular and intermittent, it is a sign of danger to the life of the child, and indicates that the labor should be speedily terminated, either by the application of the forceps or by turning.

CHANGES IN THE URINE.

From the time of the earliest writers in medicine, the urine has received the attention of physicians, claiming that in pregnancy it exhibited certain phenomena that were always present; but

modern investigations prove that but little reliance can be placed upon their observations. The most important discovery in regard to the urine in pregnancy is that of Nauche, in 1831. This peculiar product he named *Kiestein*, which he claimed to exist in the form of a pellicle, only in the urine of pregnant women. It possesses some of the elements of milk, being of a gelatino-albuminoid character. It has been investigated by the late Dr. Kane of Philadelphia, and was determined by him as not peculiar to pregnancy, being rather an indication of the existence of a secretion of milk in the mammary glands, and continues in the urine a short time after labor, until the mother begins to suckle freely, when it disappears altogether. It is not reliable as an evidence of pregnancy, although present in that state, and when present with other early signs, it may be useful in forming a correct conclusion; it likewise exists in the urine of virgins, where there is irritation of the sexual organs, particularly of the ovaries, as well as in that of women with milk in their breasts, the result of a gestation long since completed.

Gravadin is another substance alleged to have been discovered in the urine by Dr. Stark. As yet, however, we have no confirmatory evidence of its value as a sign of pregnancy.

Dr. Ingleby observed that in advanced pregnancy the uterus, when moderately grasped or rubbed, slightly hardens, independently of actual labor, and almost instantly regains its yielding condition; and this power of contraction possessed by the uterus, he states, is a trustworthy characteristic of pregnancy. It is not, however, considered by other observers as a symptom of pregnancy, but only the manifestation of a physiological fact possessed in common with other hollow organs.

Dr. Barnes has recently described a sign which he considers of special value, as corroborative aid to other signs in early pregnancy. It consists in the backward stretching of the roof of the vagina, caused by the enlargement and anteversion of the uterus, which, carrying the os and cervix backwards, stretches the attachment of the cervix to the bladder at the vaginal mucous membrane covering the connection.

There are several other symptoms of trivial value which have been advanced by various writers, who have proposed to dignify them as diagnostic signs of pregnancy, that we do not specify, considering them of not sufficient importance in this connection to further consume your valuable time.

From this presentment of the symptoms and signs of pregnancy in their relation to diagnosis, we consider the following conclusions as justified:—

First.—That the only certain diagnostic signs of pregnancy are the detection of the active movements of the child; positively feeling the fetus in utero by ballottement; and the discovery of the pulsation of the fetal heart by auscultation.

Second.—That the phenomena manifested by the breasts and their surroundings are of great value as evidences of pregnancy.

Third.—That every other sign, taken singly, is unreliable, and of decided value only when several are combined.

DR. BRUN remarked that he had been deeply interested in the paper, but thought there were one or two points that would bear criticism; and first, as to quickening. He did not, in a majority of cases, regard quickening, either as the sensation is experienced by the mother or observed by the practitioner, as of the slightest consequence. He had often been deceived in this symptom, believing he had detected it when the sensation proved to be flatus in the intestines, or spasmodic contraction of the abdominal muscles. Again, he did not think the author of the paper attached sufficient importance to ramollissement, the result of effusion in the sub-mucoustissue of the cervix. In the multipara this softening is more common than with the primipara, and *pari passu* with the softening there is a gradual opening of the os uteri, so that in four months the point of the finger can be introduced, and by the seventh month it will admit the entire first phalanx of the forefinger.

In the primipara this softening and opening of the os goes on much more slowly, and the symptom is not so early presented. Positive anterior displacement of the uterus is of importance, though Dr. B. did not regard it as pathognomonic. It is caused by the gravid uterus distending the anterior walls of the vagina, and is met with in a majority of cases during the early months of pregnancy. This is an important symptom in the primipara, but in the multipara the anterior wall of the vagina having been already distended by parturition, the symptom is not so reliable, as we may have the same displacement from various other causes.

Ballottement.—To apply this test he places the patient on her knees, and allows her to rest on her elbows; he then, with one hand on the abdomen, and the finger of the other in the vagina, applies the test.

DR. BIRNBS said that the appearance of the areola was not always a reliable symptom, as the discoloration is generally in proportion to the complexion of the woman. In the blond, and in those with yellow hair, the symptom is often entirely absent, as was observed some years ago in a series of examinations at the Demilt Dispensary. Therefore, when other symptoms indicate pregnancy, the absence of this one is of no importance, particularly in persons of light complexion. The physician is also often deceived in regard to the sounds of the fetal heart, as it is not always heard, and the sounds supposed to be of the heart are sometimes produced from other causes, as had been the case under his own observation, an eminent obstetrician declaring he

heard the heart beating but a short time before the birth of a putrid fœtus.

DR. WM. C. ROBERTS then read a paper sustaining the views of Dr. Underhill, and supplementing his remarks with the results of his own experience. (Published in *Med. Gazette*, Dec. 18, 1869.)

DR. TAYLOR said that a periodical discharge, resembling the menstrual flow, was not unusual during the early months of pregnancy; but it does not come from within the uterus. The function of gestation is wholly within the body and not the neck of the uterus, though the neck becomes softened and the seat of a vascular congestion, which is of a hemorrhoidal character. It is this vascular congestion and softening which occasions the flow, which may be compared to a discharge from hemorrhoids, but which the patient mistakes for the menstrual flow.

He said that he did not believe in shortening of the cervix, and briefly repeated the views he had previously given to the Academy. Among fifteen or twenty post-mortem examinations of women who had died in the full period of pregnancy, he had not found a single case of shortening, but rather a lengthening. He has seldom seen blueness of the vagina, though there is generally a blue tinge of the cervix and of the vulva, which is of a hemorrhoidal character. The placental murmur, he thinks, can be depended on as a reliable symptom of pregnancy, and is to be distinguished from the murmur of a fibrous tumor by its intermittent character, whereas the murmur of the fibrous tumor is continuous. We cannot always depend upon auscultation, as the position of the fœtus may be such as to render the sound of the heart inaudible; or it may also be disguised by a large amount of water within the membranes. The diagnosis between pregnancy and what is called phantom tumor may be made out by placing the patient under the influence of chloroform, which causes relaxation of the abdominal muscles and the disappearance of the spurious enlargement.

DR. CARO said that he regarded the symptoms of pregnancy as both physical and rational. The latter had been pretty fully described, but there is one physical symptom on which he places great reliance, viz., the frequency of the pulse, which is usually increased in pregnancy, and is not unlike the frequency of a typhoid fever pulse. When this symptom and the evidence derived from auscultation exist in connection with the rational symptoms, he has no hesitation in pronouncing the patient pregnant.

